

Gentlemen:

I am an Electrical Engineer and work for one of the electric utilities in Indiana. I also hold a professional engineering license in the state of Indiana. I have worked in the operations area (controlling generation, transmission and distribution), performed transmission and distribution planning, performed substation design up to and including the 345 kV level and currently work in the rate department performing rate design. I am also an amateur radio operator.

My concerns are as follows:

- A. If the electric utilities were concerned about amateur allocations in the 137kHz spectrum interfering with its PLC how the reverse would not be true with BPL radiating in the 2-80 MHz range interfering (even at the low power levels of PLC) with amateur reception, TV broadcast station reception in the low end of the VHF spectrum, government agencies and any other users having allocations in this frequency range.
- B. PLC for utilities is only applied to one phase of the power line to communicate between the two ends of the power line. For BPL to be provided to all homes connected to the distribution system it will have to be applied to all three phases of a distribution line. This multiplies the potential problems by three.
- C. BPL will be transmitted on an open unshielded wire unlike CATV where the signal is to be contained on a shielded coaxial transmission line. The power line will essentially act like a long wire antenna. The BPL signal will be radiated in all directions and undoubtedly will cause interference to those services that have antennas in close proximity to the power line.
- D. Has the FCC or anyone else considered the potential additional intermodulation problems that may and will occur to services outside the 2-80 MHz spectrum? There will definitely be some. Especially those who again have antennas in close proximity (i.e. less than 100 feet) to a distribution line carrying BPL.
- E. The local utilities will have additional interference complaints and will be required by the FCC to investigate each complaint. My employer barely has enough personnel currently to investigate the complaints we have now from bad connections, broken insulators and bad lightning arrestors. This will mean the local utilities will have to hire additional personnel and purchase additional equipment to perform these investigations. While this will mean more jobs, who will pick up the additional cost of investigating this increase in complaints. I assure you the Indiana Utility Regulatory Commission (IURC) will not allow these costs to be passed on to Indiana rate payers.
- F. Has anyone addressed the safety issues of plugging the necessary interfacing equipment into an outlet in the home having a potential of 120 volts? If this device fails and applies 120 volts to homeowners' PCs, not only will consumers lose their PCs but what about the consumer receiving an electrical shock?
- G. I have yet to see the economics showing the BPL technology will compete with DSL and high speed CATV in cost to the consumer.

Until the companies possessing the BPL technology can prove they can provide equal or better service than DSL or high speed CATV at an equal or lower cost to the consumer without ANY interference to other services using the RF spectrum I am against and that utility rate payers will not be burdened with additional costs from this technology I am recommending that the FCC not allow BPL providers to implement their technology.

Sincerely,

Mark E. Musick, PE, WB9CIF